

CLAIMS

1. Process for the preparation of a food product, characterized in that it comprises essentially at least one  
5 step of flavoring consisting in giving a smoked flavor to said food product and at least one step of coloring, independent of said flavoring step, consisting in giving a supplemental color or particular supplemental nuance to said food product, in particular by reinforcing the color  
10 previously obtained.

2. Process according to claim 1, characterized in that it comprises moreover a step of preservation, independent of said steps of flavoring and coloring,  
15 consisting in placing the food product to be prepared or already partially prepared into contact with at least one preservation product obtained by pyrolysis of at least one vegetable material and/or comprising at least one compound selected from the group formed by preservatives or CE  
20 number selected from the following list: E 200, E 202, E 203, E 210, E 211, E 212, E 213, E 235, E 249, E 250, E 251, E 252, E 260, E 262, E 263, E 270, E 300, E 301, E 325, E 326, E 330 and E 334.

25 3. Process according to claim 2, characterized in that the preservation step is carried out by applying to said food product a smoke obtained by pyrolysis of at least one organic vegetable material at a temperature comprised between 150°C and 300°C, preferably between 200°C and  
30 280°C, if desired followed by a supplemental step of purification of the produced smoke, so as to reduce to an acceptable concentration the content of undesirable

compounds of the type of polycyclic aromatic hydrocarbons (PAH), phenolic compounds and the like.

4. Process according to claim 2, characterized in  
5 that the preservation step takes place by applying to said  
food product a liquid smoke obtained by pyrolysis of at  
least one vegetable organic material at a temperature  
comprised between 150°C and 300°C, preferably between 200°C  
and 280°C, if desired followed by a supplemental step of  
10 purification of the produced smoke, so as to reduce to an  
acceptable concentration the content of undesirable  
compounds of the type of polycyclic aromatic hydrocarbons  
(PAH), phenolic compounds and the like, said produced  
smoke, if desired purified, being condensed in liquid form  
15 once produced in a suitable condensation device.

5. Process according to any one of claims 1 to 4,  
characterized in that the flavoring step takes place by  
applying to said food product, a smoke obtained by  
20 pyrolysis of at least one vegetable organic material at a  
temperature comprised between 200°C and 800°C, preferably  
between 300°C and 400°C, if desired followed by a  
supplemental step of purification of the produced smoke  
when said pyrolysis temperature is comprised between 400°C  
25 and 800°C, so as to reduce to an acceptable concentration  
the content of undesirable compounds of the type of  
polycyclic aromatic hydrocarbons (PAH).

6. Process according to any one of claims 1 to 5,  
30 characterized in that the flavoring step takes place by  
applying to said food product a liquid smoke obtained by  
pyrolysis of at least one organic vegetable material at a

temperature comprised between 200°C and 800°C, preferably between 300°C and 400°C, if desired followed by a supplemental step of purification of the produced smoke when said pyrolysis temperature is comprised between 400°C 5 and 800°C, so as to reduce to an acceptable concentration the content of undesirable compounds of the type of polycyclic aromatic hydrocarbons (PAH), the smoke produced, if desired purified, being condensed in liquid form once produced in a suitable condensation device.

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7. Process according to one of claims 2 to 6, characterized in that the pyrolysis takes place under precise control, to about 0.1%, of the volume of oxygen during said pyrolysis.

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8. Process according to any one of claims 2 to 7, characterized in that the pyrolysis takes place under precise control, to about one degree Celsius, of the pyrolysis temperature.

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9. Process according to any one of claims 2 to 8, characterized in that the organic pyrolyzed material is essentially constituted by fibers or chips of at least one vegetable substance such as wood, cellulose or any other 25 mono or polysaccharide or ligno-cellulose complex.

10. Process according to any one of claims 2 to 9, characterized in that the pyrolysis takes place in a vibrated elevating reactor of the type comprising 30 essentially a heatable chamber substantially hermetically sealed containing at least one ascending tubular element that is vibrated and receiving an organic material to be

pyrolyzed, for the production of smoke or a liquid smoke adapted for the smoking of food products.

11. Process according to any one of claims 2 to 9,  
5 characterized in that the pyrolysis takes place in a reactor comprising essentially a substantially hermetically sealed heatable chamber containing at least one rotating endless screw heated by the Joule effect, said at least one screw receiving an organic material to be pyrolyzed, for  
10 the production of smoke adapted for smoking food products.

12. Process according to any one of claims 4 and 6 to  
11, characterized in that the liquid smoke used has, once  
condensed, a volume content of benzo[a]pyrene of at most 10  
15 ppb and a volume content of benzoanthracene of at most 20 ppb.

13. Process according to any one of claims 1 to 12,  
characterized in that the coloring step is carried out by  
20 performing Maillard reactions on the food product to be prepared or already partially prepared.

14. Process according to claim 13, characterized in that the coloring step takes place by placing the food  
25 product to be colored into contact with a composition containing at least one carbonylated substance other than hydroxyacetaldehyde and reducing sugars.

15. Process according to claim 14, characterized in  
30 that the coloring step takes place by placing the food product to be colored into contact with a composition containing at least one substance selected from the group

formed by hexadecanal, glutaraldehyde, 2-ethylhexanal, farnesal, 2-butenal, 2-methylhexanal, glyoxal, 2-methylpentanal, nerual, tridecanal, 2-hexanal and 2-propenal.

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16. Process according to claim 13, characterized in that the coloring step takes place by placing the food product to be colored into contact with an aminated composition containing at least one amino acid.

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17. Process according to any one of claims 1 to 12, characterized in that the coloring step takes place by placing the food product to be colored into contact with at least one coloring composition comprising at least one colorant selected from the group formed by carmine, caramel, paprika, annatto, sandalwood and by the colorants of CE number selected from the following list: E 100, E 101, E 102, E 104, E 110, E 120, E 122, E 123, E 124, E 127, E 128, E 129, E 131, E 132, E 133, E 140, E 141, E 142, E 150a, E 150b, E 150c, E 150d, E 151, E 153, E 154, E 155, E 160a, E 160b, E 160c, E 160d, E 160e, E 160f, E 161b, E 161g, E 162, E 163, E 170, E 171, E 172, E 173, E 174, E 175 and E 180.

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18. Process according to any one of claims 1 to 17, characterized in that one, several or all of the steps among them flavoring, coloring and preservation, are carried out by separate spraying of liquid compositions ready to use obtained from the flavoring, coloring or preservative compositions, onto the food product to be prepared or already partially prepared.

19. Process according to any one of claims 1 to 18, characterized in that one, several or all of the steps among them flavoring and preservation are carried out by smoking the food product to be prepared or already 5 partially prepared.

20. Food product obtained by the practice of the process according to any one of claims 1 to 19.

10        21. Preservative agent for food products for the practice of the process according to any one of claims 3 or 5 to 19, characterized in that it consists in a smoke obtained by pyrolysis of at least one organic material at a temperature comprised between 150°C and 300°C, preferably 15 between 200°C and 280°C, if desired followed by a supplemental purification step of said smoke, so as to reduce to an acceptable concentration the content of undesirable compounds of the type of polycyclic aromatic hydrocarbons (PAH), phenolic compounds and the like.

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22. Preservative agent for food products for the practice of the process according to any one of claims 4 or 6 to 19, characterized in that it consists of a liquid smoke obtained by pyrolysis of at least one organic 25 material at a temperature comprised between 150°C and 300°C, preferably between 200°C and 280°C, if desired followed by a supplemental step of purification of the produced smoke, so as to reduce to an acceptable concentration the content of undesirable compounds of the 30 type of polycyclic aromatic hydrocarbons (PAH), phenolic compounds and the like, said produced smoke, if desired

purified, being condensed in the form of a liquid once produced in a suitable condensation device.

23. Preservative agent according to claim 21 or 22,  
5 characterized in that it has a content of carboxylic acids arising from pyrolysis comprised between 1% and 50% by weight.

24. Use of a composition containing at least one  
10 carbonylated substance other than hydroxyacetaldehyde and reducing sugars for the coloring by Maillard reactions of a food product.

25. Use according to claim 24, characterized in that  
15 the composition contains at least one substance selected from the group formed by hexadecanal, glutaraldehyde, 2-ethylhexanal, farnesal, 2-butenal, 2-methylhexanal, glyoxal, 2-methylpentanal, neral, tridecanal, 2-hexanal and 2-propenal.